

# Canadians without regular medical doctors

## *Who are they?*

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### abstract

**OBJECTIVE** Because having a regular medical doctor is associated with positive outcomes, this study attempted to determine the characteristics of Canadians without regular doctors so that alternative methods of delivering care to people with those characteristics can be studied.

**DESIGN** Secondary data analysis of the National Population Health Survey using bivariate analyses and logistic regression.

**PARTICIPANTS** A total of 15 777 respondents older than 20 years.

**MAIN OUTCOME MEASURES** Responses to the question "Do you have a regular medical doctor?" and analysis of 11 variables covering demographics, health status, and lifestyle factors.

**RESULTS** One in seven respondents did not have a regular doctor. Younger respondents, men, single people, poorer respondents, respondents who perceived themselves in better health, recent immigrants, those without confidants, and smokers were more likely not to have regular doctors. Comparing provinces, participants from Quebec were least likely to have regular doctors.

**CONCLUSION** Primary care reform might need to consider alternative ways of providing care to certain people. Future primary care programs could be targeted to improve coverage of relatively underserved people, particularly men, people on low incomes, those without confidants, and recent immigrants.

### résumé

**OBJECTIF** Étant donné qu'on associe le fait d'avoir un médecin de famille régulier à des issues favorables, la présente étude a tenté d'établir les caractéristiques des Canadiens qui n'ont pas de médecin régulier, de manière à pouvoir examiner d'autres méthodes de dispenser des soins aux personnes répondant à de telles caractéristiques.

**CONCEPTION** Des données secondaires à l'Enquête nationale sur la santé de la population au moyen d'analyses bidimensionnelles et de régression logistique.

**PARTICIPANTS** Au total, 15 777 répondants de plus de 20 ans.

**PRINCIPALES MESURES DES RÉSULTATS** La réponse à la question « Avez-vous un médecin régulier? » et l'analyse de 11 variables portant sur les données démographiques, l'état de santé et les facteurs liés au mode de vie.

**RÉSULTATS** Un répondant sur sept n'avait pas de médecin régulier. Il était plus probable que les répondants plus jeunes, les hommes, les célibataires, les plus pauvres, ceux qui se percevaient en meilleure santé, les récents immigrants, les personnes sans confident et les fumeurs n'aient pas de médecin régulier. En comparant les provinces, les participants du Québec étaient plus susceptibles de ne pas avoir de médecin régulier.

**CONCLUSION** La réforme des soins de première ligne devrait envisager d'autres moyens de dispenser des soins à certaines personnes. Les programmes futurs de soins de première ligne pourraient cibler les soins aux personnes relativement mal desservies, notamment les hommes, les personnes à faible revenu, celles sans confident et les récents immigrants.

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**H**aving a regular medical doctor is associated with increased patient satisfaction<sup>1,4</sup> (specifically with the physician-patient relationship<sup>5</sup>), receiving better preventive care,<sup>6,9</sup> more timely access to care,<sup>10</sup> better compliance with medications,<sup>11-13</sup> lower medical costs during hospitalization,<sup>14</sup> less discomfort and less dissatisfaction during chronic diseases,<sup>15</sup> and less disability. Review of Canadian National Population Health Survey (NPHS) data seems to confirm some of these findings.<sup>16</sup>

Patients without regular medical doctors use medical services less than those with regular doctors. They often perceive they do not need medical services, which could put them at risk of not receiving timely and appropriate care. In the United States, patients who do not follow recommendations for mammography are more likely not to have regular doctors and to have less healthy lifestyles.<sup>7,17</sup>

Most primary care physicians see patients with poorly differentiated problems, 60% of which will resolve or develop into conditions that need treatment, and 40% of which will never be diagnosed.<sup>18</sup> In either case, the most appropriate management is watchful waiting, which requires an ongoing relationship with a care provider and a mechanism to ensure follow up. Such a mechanism would not usually be available in episodic care facilities, such as emergency rooms or walk-in clinics. In its definition of primary care, the Institute of Medicine identified "sustained partnership" as an essential ingredient of primary care practice.<sup>19</sup>

What are the characteristics of patients without regular doctors? American studies have shown that such patients are less likely to have medical insurance and less likely to have chronic illnesses, and are likely to be younger, in good health, from African-American or Hispanic origins, on lower family incomes, and to have less than high school education.<sup>17</sup> They are more likely to use emergency rooms and walk-in clinics.<sup>20,21</sup> American studies suggest that insurance coverage alone does not

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guarantee use of timely and appropriate medical care. Other factors, such as sex, lack of sick leave, child-care costs, lack of transportation, education level, and dysfunctional social or home environments, are also obstacles.<sup>22</sup>

In Canada, current health policy favours reforming primary medical services through a population-based approach called rostering, a form of capitation whereby patients are registered with one care provider, either by choice or by geography. Advocates of rostering suggest it can improve efficiency, planning, and delivery of proactive preventive primary health care.<sup>23,25</sup> Rosterer works, however, through provision of coordinated care by a regular medical doctor. In assessing the feasibility of such an approach, knowing the characteristics of Canadians who do *not* have regular doctors and knowing how they use health services might guide policy makers. An extensive review of the literature in MEDLINE and EMBASE using the key words continuity of care, regular doctors, and family physician revealed no Canadian studies on the subject.

This study was designed to examine the characteristics of Canadians who do not have regular doctors. We hope the answers will inform the current debate on primary care reform.

## METHODS

### Ethics approval

Statistics Canada is responsible for ethical approval of initial data collection for the NPHS. Analysis reported in this paper used the public-use data file from which all personal identifying information has been removed. Further ethics approval was not required.<sup>26</sup>

### Subjects

The NPHS, a cross-sectional study conducted by Statistics Canada in 1994-1995, targeted households throughout Canada, except on Canadian Forces bases, Native reserves,\* and in some remote areas. A multistage stratified sampling design was used to identify households. In each province, regions were first stratified into major urban centres, urban towns, and rural areas and then further divided into geographic regions and socioeconomic strata. Within each stratum, census enumeration areas were randomly selected, and within each household, one person was randomly selected to respond to a lengthy survey comprising questions on health and psychosocial conditions. The total NPHS sample included 17 626 respondents, for an overall response rate of 88% of households.<sup>27,28</sup>

\*The term *Native* is used throughout this article to denote the original inhabitants of Canada and their descendants

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Because we were concerned with adults' use of regular medical doctors, we excluded adolescents and children from our analysis. Although we would have preferred to include everyone 18 years and older, the public-use data files restricted us to those aged 20 and older. We excluded people with incomplete data on one or more of the variables in question. Our final sample comprised 14 384 respondents.

Data were weighted using a variable constructed by the NPHS to adjust for the unequal probabilities of selection in order to be representative of the Canadian population with the noted exclusions.

#### Measures

The main outcome variable was derived from the question, "Do you have a regular medical doctor?" In this study, we were interested in use of a regular doctor, but we should note here that those without regular doctors might have had a regular source of care. We expect that respondents with a regular source of care, such as a CLSC in Quebec, but without a regular doctor within that setting, would have answered that question no. A further 11 independent variables were considered explanatory factors.

The seven demographic variables were sex, age, employment status, marital status, province or region of residence, years since immigration, and income. This seventh demographic characteristic was a derived variable generated by the NPHS based on a combination of household size and income. This five-level variable ranged from lowest income (<\$10 000 for households of four or fewer residents or <\$15 000 for five or more) to highest income (≥\$60 000 for households of one or two people or ≥\$80 000 for three or more).

Respondents' health-related variables were self-reported health status (excellent or very good, good, fair, or poor) and existence of at least one of 17 possible chronic health conditions diagnosed by a health professional (ranging from asthma to stomach or intestinal ulcers). Lifestyle variables included current smoking status and social support, as measured by having a confidant.

#### Statistical analyses

The 11 independent variables described above were all simultaneously included in a logistic regression analysis predicting whether a respondent was without a regular medical doctor. We used a .05 level of significance.

Logistic regression analysis is a form of multivariate analysis in which the outcome variable has only two categories and all predictor variables are included in the equation at the same time. This technique

provides an *r* statistic that allows us to assess the independent importance of each of these characteristics when controlling for the other variables. Those *r* statistics can range from -1 to + 1. As the size of the partial contribution increases, the absolute value of the *r* statistic approaches 1.

## RESULTS

One in seven respondents (14%) indicated he or she did not have a regular medical doctor (**Table 1**). As shown in the logistic regression analysis (**Table 2**), men were more than twice as likely to be without regular doctors as women were. The odds of being without a regular doctor decreased by 19% with every decade of age. Unmarried people, immigrants who arrived in the last 10 years, those in better health, current smokers, and those without confidants all had higher odds of reporting no regular doctor.

In comparison with those in the highest income quintile, those in the lowest and second-lowest had higher odds of being without a regular doctor. Regional patterns also emerged. Compared with Ontario citizens, the odds of not having a regular doctor were almost five times higher for residents in Quebec, more than four times higher for those in Newfoundland, and three times higher for those in the Prairie Provinces. British Columbia residents had 64% higher odds of reporting no regular doctor than did Ontario citizens.

Two variables were associated with lower odds of being without a regular doctor. Immigrants who had been here 10 years or more were less likely than Canadian-born respondents to be without a regular doctor (odds ratio 0.76). Respondents who had one or more chronic conditions had 47% lower odds of being without a regular doctor than those without any chronic conditions.

The *r* statistic allows us to rank the relative explanatory power of each independent variable. Geographic region was the strongest predictor followed by sex, age, presence of chronic health conditions, and marital status. The remaining significant variables ranked considerably lower in their ability to predict whether someone would have a regular medical doctor.

## DISCUSSION

In 1994-1995, only 14% of Canadians, on average, said they were without regular doctors. We believe this could be an underestimate. People reporting seeing a regular doctor might see mainly a specialist on a regular basis. Also, media reports suggest that access to family physicians has become more difficult in the last few years.<sup>29-31</sup>

**Table 1. Characteristics of Canadian adults with and without regular medical doctors: Bivariate analyses of respondents age 20 and older (N = 15 777, P < .001).**

VARIABLES	HAS REGULAR MEDICAL DOCTOR N = 13 628 (86.4%)	HAS NO REGULAR MEDICAL DOCTOR N = 2149 (13.6%)
<b>DEMOGRAPHIC</b>		
<b>Sex</b>		
• Male	81.8	18.2
• Female	90.8	9.2
<b>Age (y)</b>		
• 20-29	78.7	21.3
• 30-39	84.3	15.7
• 40-49	85.2	14.8
• 50-59	90.5	9.5
• 60-69	94.2	5.8
• 70-79	93.0	7.0
• ≥80	95.2	4.8
<b>Years since immigration</b>		
• Canadian born	85.8	14.2
• 0-4	72.9	27.1
• 5-9	85.2	14.8
• ≥10	91.9	8.1
<b>Marital status</b>		
• Unmarried	82.3	17.7
• Married	88.3	11.7
<b>Current employment status</b>		
• Not working	88.9	11.1
• Currently working	84.8	15.2
<b>Derived income adequacy category</b>		
• Lowest income	82.1	17.9
• Low middle income	84.2	15.8
• Middle income	86.5	13.5
• Upper middle income	86.9	13.1
• Highest income	88.2	11.8

**Province**

• British Columbia	90.1	9.9
• Manitoba, Saskatchewan, Alberta	83.6	16.4
• Newfoundland	77.3	22.7
• Ontario	93.5	6.5
• Prince Edward Island, Nova Scotia, New Brunswick	93.4	6.6
• Quebec	74.4	25.6

**HEALTH-RELATED****Self-reported health status**

• Excellent or very good health	84.1	15.9
• Good health	88.6	11.4
• Fair or poor health (reference category)	93.5	6.5

**Chronic conditions**

• One or more chronic conditions	92.5	7.5
• No chronic conditions	81.4	18.6

**LIFESTYLE****Smoking status**

• Current smoker	83.1	16.9
• Not current smoker	87.8	12.2

**Confidant available**

• Had a confidant (reference category)	87.3	12.7
• Had no confidant	82.5	17.5

The literature supports our findings that people without regular doctors are more likely to be younger, male, smokers, poorer, and without confidants. Our other findings of groups more likely to be without regular doctors (recent immigrants; unmarried people; those living in western provinces, Quebec, or Newfoundland; those in good to excellent health; and those with no chronic health conditions) have not been previously reported. Given the many benefits of having a regular doctor as shown in the literature, such findings might allow for a more targeted approach in a proactive, population-based, primary care delivery system.

**Predictive factors**

Regional differences are puzzling. In all provinces, the ratio of general practitioners to specialists is around

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**Table 2. Logistic regression analysis predicting whether respondents were without regular medical doctors:  $N = 14\,384$ .**

CHARACTERISTICS	ODDS RATIO	95% CONFIDENCE INTERVAL	P VALUE SIGNIFICANCE	R VALUE
<b>DEMOGRAPHIC</b>				
<b>Sex</b>				
• Male	2.25	(2.02, 2.51)	<.001	.14
<b>Age by decade</b>				
	0.81	(0.78, 0.84)	<.001	-.10
<b>Years since immigration</b>				
Canadian born (reference category)	N/A	N/A	<.001	.05
• 0-4	1.00	N/A	N/A	N/A
• 5-9	2.00	(1.49, 2.68)	<.001	.04
• 10-14	1.39	(1.02, 1.91)	.038	.01
• ≥15	0.76	(0.63, 0.92)	.004	-.02
<b>Marital status</b>				
• Unmarried (never married, separated, divorced)*	1.59	(1.42, 1.78)	<.001	.08
<b>Current employment status</b>				
• Currently working†	0.94	(0.83, 1.07)	.35	.00
<b>Derived income adequacy category</b>				
	N/A	N/A	.01	.02
• Lowest income	1.40	(1.08, 1.81)	.01	.02
• Low middle income	1.31	(1.06, 1.61)	.01	.02
• Middle income	1.10	(0.93, 1.31)	.27	.00
• Upper middle income	1.03	(0.87, 1.21)	.75	.00
• Highest income (reference category)	1.00	N/A	N/A	N/A
<b>Province</b>				
	N/A	N/A	<.001	.22
• British Columbia	1.64	(1.35, 3.57)	<.001	.05
• Manitoba, Saskatchewan, Alberta	3.02	(2.57, 3.57)	<.001	.12
• Newfoundland	4.35	(3.15, 6.01)	<.001	.08
• Ontario (reference category)	1.00	N/A	N/A	N/A
• Prince Edward Island, Nova Scotia, New Brunswick	1.10	(0.82, 1.47)	.52	.00
• Quebec	4.97	(4.31, 5.74)	<.001	.21
<b>HEALTH-RELATED</b>				
<b>Self-reported health status</b>				
	N/A	N/A	<.001	.05
• Excellent or very good health	1.70	(1.34, 2.15)	<.001	.04
• Good health	1.32	(1.03, 1.68)	.03	.02
• Fair or poor health (reference category)	1.00	N/A	N/A	N/A
<b>Chronic conditions</b>				
• One or more chronic conditions‡	0.53	(0.47, 0.61)	<.001	-.09
<b>LIFESTYLE</b>				
<b>Smoking status</b>				
• Current smoker§	1.17	(1.05, 1.31)	.006	.02
<b>Confidant available</b>				
• Had no confidant¶	1.27	(1.10, 1.48)	.002	.03

N/A—not applicable.

\*Reference category, married.

†Reference category, not working.

‡Reference category, no chronic illnesses.

§Reference category, not current smoker.

¶Reference category, have a confidant.

50:50. In Quebec, however, the community health movement is considerably more advanced than elsewhere in the country,<sup>32</sup> so some of the people who report being without regular doctors might have regular sites of care (ie, CLSCs) where they see various providers. A similar argument could be used for Newfoundland and the rural prairies where people use small cottage hospitals and community health centres. Regional differences are the most powerful predictors of being without a regular doctor, yet we strive for a universal health system. Therefore, this area requires a great deal of attention. Is there a cultural difference in use of physicians in these provinces? We have not found any literature addressing this issue.

Further research on care providers, patients, and regional health administrators might shed light on the reasons for these large geographic discrepancies. Health care is a provincial responsibility and, as such, subject to variations. From a policy maker's perspective, regional differences might be an easier target for change through policy than patients' characteristics. If the differences are systemic, targeted campaigns could alter practice patterns. Larger provincial sampling would allow for finer analysis.

Sex was second only to geographic region as a predictor of being without a regular doctor. Men use medical services less than women do,<sup>33,34</sup> and younger men are most likely to use emergency or walk-in facilities. This might be because men see less need to consult doctors<sup>35,36</sup> or do not perceive themselves as vulnerable.<sup>37</sup> Women are more likely to consult for preventive reasons (prenatal care, Pap tests, breast examinations) than are men, who attend doctors for specific problems.

Our findings that unmarried people and those without confidants are less likely to have regular doctors parallel findings in the literature. There are social aspects to seeking care, and people with confidants are four times more likely to do so.<sup>38,39</sup> Clinical experience in men's health indicates that female partners often encourage men to seek health services.<sup>40</sup>

People without regular doctors tend to be poorer. The *r* statistic indicates, however, that income was not one of the most important factors in predicting use of a regular doctor. Although our free health care system has not eradicated the problem of access to health care for the poor, money is no longer the main barrier. American studies have found income level to be positively correlated with using a regular source of care.<sup>41</sup> In the United States, people receiving Medicaid tend to be members of minority groups who use regular sites of care but often do not have regular doctors.<sup>42</sup>

Even in the United Kingdom where they have a capitation system, Sweeney and Gray<sup>35</sup> found that

#### Editor's key points

- In 1994-1995, about 14% of Canadians reported not having regular doctors.
- Those more likely to be without regular doctors were younger, male, unmarried, poorer, recent immigrants, without confidants, smokers, and people who perceived themselves in better health.
- The highest proportions of people without regular doctors lived in Quebec, Newfoundland, and the Prairie Provinces.

#### Points de repère du rédacteur

- En 1994-1995, environ 14% des Canadiens signalaient ne pas avoir de médecin régulier.
- Les personnes les plus susceptibles de ne pas avoir de médecin régulier étaient plus jeunes, de sexe masculin, célibataires, plus pauvres, récemment immigrées, sans confidents, des fumeurs et des personnes se percevant en meilleure santé.
- Les plus grandes proportions de personnes qui n'ont pas de médecin régulier habitaient le Québec, Terre-Neuve et les Prairies.

being in a lower income bracket was associated with less likelihood of having a regular medical doctor and higher use of emergency care. The reason for this is unclear. In a publicly financed system, money should not be a barrier. Rigid work schedules and lack of child care or transportation might prevent use of a regular medical doctor and encourage people to turn to walk-in clinics or emergency departments. Canadian subsamples could be studied in depth to determine the role of various factors in accessibility.<sup>43</sup>

Recent immigrants, who have been found to be healthier and to use fewer health care services than Canadian-born people, appear to be less likely to have regular doctors.<sup>44</sup> Immigrants primarily come from countries with less established health care systems and might not be used to having regular doctors. On the other hand, immigrants who have been here more than 10 years are more likely to have regular doctors than Canadians in general are. This is an important area for future research.

Age and chronic illness were also found to be important predictors. Older respondents have probably had more episodic complaints than younger respondents and, therefore, have sought out doctors on more occasions. Not surprisingly, respondents in better health and those without chronic illness were less likely to have regular doctors. Current smokers were more likely to

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be without regular doctors. Perhaps having a regular doctor is indicative of concern with health.

#### Limitations

There are several limitations to this study. It is a secondary analysis of NPHS data and, therefore, we are limited to the questions asked in the NPHS. The outcome variable was based on the question, "Do you have a regular medical doctor?" We could not determine whether respondents had a regular source of care but not a regular medical doctor. If we have misclassified these respondents into the no regular doctor category, however, we would have been less likely to detect the hypothesized difference between groups. The NPHS did not include respondents on Canadian Forces bases or on Native reserves or homeless people so findings cannot be generalized to these populations.

#### CONCLUSION

In 1994-1995, only 14% of Canadians, on average, said they had no regular doctor. We believe this is an underestimate because some patients see specialists on a regular basis. Future primary care programs could be targeted to improve coverage of relatively underserved people, particularly men, people with low incomes, people without confidants, and recent immigrants. ❀

#### Contributors

**Dr Talbot** was responsible for the literature review and the discussion and coordination of the paper. **Dr Fuller Thompson** was primarily responsible for data analysis. **Drs McIsaac and Tudiver** contributed to the analysis and discussion.

#### Competing interests

None declared.

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